CLAIMS

What is claimed is:

1. A decoding apparatus for providing a browsable slide show, the decoding apparatus comprising:

a mainstream decoder, to decode mainstream packet data;

a sub-audio decoder, to decode sub-audio packet data;

a mainstream system time clock counter, to provide a system time clock sequence which controls the decoding time of the mainstream packet data by the mainstream decoder; and

a sub-audio system time clock counter, to provide a system time clock sequence which controls the decoding time of the sub-audio packet data by the sub-audio decoder.

2. The decoding apparatus of claim 1, wherein the mainstream packet data comprises image data to be reproduced in a browsable slide show.

3. The decoding apparatus of claim 2, wherein the sub-audio packet data comprises audio data attached to the image data.

4. The decoding apparatus of claim 3, further comprising:

a mainstream buffer to store the image data; and

a sub-audio buffer to store the audio data,

wherein the apparatus can seamlessly reproduce the audio data when a forward or reverse play is selected during the browsable slide show.

5. The decoding apparatus of claim 2, wherein the mainstream system time clock counter provides a system time clock sequence to the mainstream decoder for each image included in the mainstream packet data.

6. The decoding apparatus of claim 1, wherein an output of the mainstream system time clock counter is initialized based on a predetermined reference value specified in the mainstream packet data.

7. The decoding apparatus of claim 1, wherein an output of the mainstream system time clock counter is independent of an output of the sub-audio system time clock counter.

8. A data storage medium to store the mainstream packet data and the sub-audio packet data to be decoded by the decoding apparatus of claim 1, wherein the data storage medium comprises:

a plurality of clips, including image data;

a play list, including information on reproduction of each of the plurality of clips, and

clip information, including information specifying a structure of each of the plurality of clips and information on a system time clock sequence of each image data.

9. The data storage medium of claim 8, wherein the play list comprises a plurality of play items, the plurality of play items having a sequence that corresponds to an order for reproducing the plurality of play items.

10. The data storage medium of claim 9, wherein each of the plurality of play items comprises at least one of:

a file name of clip information, which contains information on a structure of the plurality of clips;

a system time clock reference which contains information that specifies the system time clock sequence of the plurality of clips;

an in time which indicates a predetermined time between a presentation start time and a presentation end time of the system time clock sequence at which the image data of the corresponding clip is to be reproduced; and

an out time which indicates a predetermined time at which the reproduction of the image data of the corresponding clip is to end.

11. The data storage medium of claim 10, wherein the out time is set to the same value as the presentation end time.

12. The data storage medium of claim 11, wherein the in time and the out time are used with motion picture image data.

13. The data storage medium of claim 8, wherein the clip information comprises:

sequence information which includes a number of system time clock sequences in a predetermined clip, a position to indicate a location of each of the system time clock sequences in the predetermined clip, a presentation start time of each of the system time clock sequences in the predetermined clip, and a presentation end time of each of the system time clock sequences in the predetermined clip; and

characteristic point information which includes an EP map, which includes information on a number of entry points of the predetermined clip, the position of a system time clock sequence corresponding to each of the system time clock sequences in the predetermined clip, and a presentation start time of each of the system time clock sequences in the predetermined clip.

14. A decoding method for providing a browsable slide show, the decoding method comprising:

generating a system time clock sequence for mainstream packet data to control the decoding time of the mainstream packet data;

decoding the mainstream packet data according to the system time clock sequence for the mainstream packet data;

generating a system time clock sequence for sub-audio packet datato control the decoding time of the sub-audio packet data; and

decoding the sub-audio packet data according to the system time clock sequence for the sub-audio packet data.

15. The decoding method of claim 14, wherein the mainstream packet data comprises image data to be reproduced in a browsable slide show.

16. The decoding method of claim 15, wherein the sub-audio packet data comprises audio data attached to the image data.

17. The decoding method of claim 16, further comprising:

storing the image data in a mainstream buffer; and

storing the audio data in a sub-audio buffer,

wherein the audio data is seamlessly reproduced when a forward or reverse play is selected during the browsable slide show.

18. The decoding method of claim 14, wherein the generating a system time clock sequence for mainstream packet data comprises generating a system time clock sequence for each image included in the mainstream packet data.

19. The decoding method of claim 14, wherein the generating a system time clock sequence for mainstream packet data comprises determining an initial value of the system time clock sequence for the mainstream packet databased on a predetermined reference value specified in the mainstream packet data.

20. The decoding method of claim 14, wherein the system time clock sequence for the mainstream packet data is independent of the system time clock sequence for the sub-audio packet data.

21. A data storage medium to store the mainstream packet data and the sub-audio packet data to be decoded by the decoding method of claim 14, the data storage medium comprising:

a plurality of clips, including image data;

a play list, including information on reproduction of each of the plurality of clips; and

clip information, including information specifying a structure of each of the plurality of clips and information on a system time clock sequence of each image data.

22. The data storage medium of claim 21, wherein the out time is set to the same value as the presentation end time.

23. The data storage medium of claim 22, wherein the in time and the out time are used with motion picture image data.

24. The data storage medium of claim 21, wherein the clip information comprises:

sequence information which includes a number of system time clock sequences in a predetermined clip, a position to indicate a location of each of the system time clock sequences in the predetermined clip, a presentation start time of each of the system time clock sequences in the predetermined clip, and a presentation end time of each of the system time clock sequences in the predetermined clip; and

characteristic point information which includes an EP map, which includes information on a number of entry points of the predetermined clip, the position of a system time clock sequence corresponding to each of the system time clock sequences in the predetermined clip, and a presentation start time of each of the system time clock sequences in the predetermined clip.

25. A data storage medium, to store data to be reproduced in a browsable slide show, the data storage medium comprising:

a plurality of clips, including image data;

a play list, including information on reproduction of each of the plurality of clips; and

clip information, including information specifying a structure of each of the plurality of clips and information on a system time clock sequence of each image.

26. The data storage medium of claim 25, wherein information on the system time clock sequence of each image comprises pieces of information on a location of each image in each of the plurality of clips and reproduction starting time and reproduction ending time of each image.

27. The data storage medium of claim 25, wherein the play list comprises a plurality of play items, and each of the plurality of play items includes pieces of information on actual reproduction start time and actual reproduction ending time of each image.

28. The data storage medium of claim 26, wherein the reproduction ending time of each image is set to infinity.

29. A computer-readable recording medium, on which a program enabling a decoding method is recorded, the decoding method comprising:

generating a system time clock sequence for mainstream packet data, to control the decoding time of the mainstream packet data;

decoding the mainstream packet data according to the system time clock sequence for the mainstream packet data;

generating a system time clock sequence for sub-audio packet data, to control the decoding time of the sub-audio packet data; and

decoding the sub-audio packet data according to the system time clock sequence for the sub-audio packet data.

30. The computer-readable recording medium of claim 29, wherein the mainstream packet data comprises image data to be reproduced in a browsable slide show.

31. The computer-readable recording medium claim 29, wherein the sub-audio packet data comprises audio data attached to the image data.

32. A decoding apparatus for providing a browsable slide show, the decoding apparatus comprising:

a video decoder to decode video data provided to the apparatus; and

an audio decoder to decode audio data provided to the apparatus,

wherein the audio data is decoded independently of the video data to seamlessly reproduce the audio data during the browsable slide show when a forward play or a reverse play of the video data is selected.

33. A decoding method for providing a browsable slide show, the decoding method comprising:

receiving corresponding audio data and video data; and

decoding the video data separately from the audio data to seamlessly reproduce the audio data during the browsable slide show when a forward play or a reverse play of the video data is selected.